ABSTRACT OF THE DISCLOSURE

A coating film forming apparatus for forming a film by applying a coating solution to a substrate, which is provided with a cassette section, coating unit, developing unit, pre-treatment/post-treatment units and a main arm for transferring the substrate between the respective units. In the coating unit, provided is a coating section in which a resist is applied on the substrate in a manner of single stroke by intermittently moving the substrate in a Y-direction and by moving a nozzle in an X-direction, and provided is a reduced-pressure drying section for drying under reduced pressure the substrate after being applied, and further provided is equipment for removing the coating film adhered to a periphery of the substrate. Additionally, when the reduced-pressure drying section is arranged outside the coating unit, the main arm is covered with a cover so that the inside thereof is under a solvent atmosphere.